Remarks

The Applicants note the objection to the Specification with respect to headings. The Applicants note that headings were placed into the Specification at the time the application was filed in a Preliminary Amendment, convenience copy enclosed. The Applicants have, in any event, made several additional changes that further updates the headings and make a number of other changes to the Specification to place it into better condition for allowance. A marked-up Substitute Specification showing all new amendments to the Specification is enclosed, as well as a clean copy of the Substitute Specification.

The Applicants note that the objection specifies that certain particular headings are required. In that regard, the Applicants note that both 37 CFR 1.77 and MPEP §608.01(c) state that applications "should" include those headings. The Applicants respectfully submit that this is not an absolute requirement but is merely advisory. The Applicants respectfully submit that the amended headings are in the spirit of both the CFR and the MPEP and respectfully submit that they be entered into the official file. Withdrawal of the objection is respectfully requested.

The Applicants note the objection to Claims 4, 8, 12, 19, 23 and 27. Those claims have been amended in accordance with the Examiner's helpful suggestions. Withdrawal of the objections is respectfully requested.

Claims 4-14 and 16-30 stand rejected under 35 U.S.C. §101. The Applicants have carefully examined independent Claims 16 and 17 and respectfully submit that they are fully in conformance with §101.

The subject matter of Claims 16 and 17 is a method for detecting modes of a dynamic system. Basically, a patent may be obtained for a method (or process) according to 35 U.S.C. §101. The Applicants note that the guidelines for examination of applications for compliance with the utility

requirement (MPEP 2107) are to be taken into consideration. According to MPEP 2107 II (A), the utility requirement is to be considered in particular in view of the claims and the supporting written description. The Applicants' Specification includes specific examples of applications of the methods of Claims 16 and 17 on pages 16 to 20. Furthermore, the applications of the method are readily seen as credible by a person of ordinary skill in the art.

Contrary to MPEP 2107 II (c), the rejection does not include a detailed explanation why the claimed subject matter would not have specific and substantial credible utility. It is emphasized that the application of mathematical concepts as such in a method does not challenge the utility requirement.

The methods of Claim 16 and 27 include the processing of the time series of at least one system variable, which is considered a "real world" value of the dynamic system. While the system variables are characteristic for a current state of the system, the method of Claim 16 predicts the state directly following to the current state. The prediction of the following state represents a useful, concrete and tangible result of the method of Claim 16. On the other hand, the method of Claim 17 even controls the dynamic system on the basis of the prediction. Again, the claimed method produces a specific result.

It is to be emphasized that the methods of Claims 16 and 17 do not consist solely of the manipulation of the recorded variables. In fact, the variables are evaluated in recited step to obtain a specific result such as the prediction or the control of the system.

The Applicants have nonetheless amended independent Claims 16 and 17 to further emphasize a number of the points raised above. For example, the last paragraph of both claims has been amended to still further more affirmatively recite the "predicting" and "controlling" steps. Also, both claims have been amended to recite that the method is "performed on a computer."

Finally, both claims have been amended to recite that the dynamic system exists in a physical, chemical or biological process. Support for that language may be found in the Applicants' Specification on page 19 at 5 lines from the bottom of the page, for example. It should be noted that the Applicants intend for the language "physical, chemical and biological process" to cover all of the possible applications mentioned in the Specification including those mentioned below the text on page 19 such as geology, meteorology, climatology, speech detection and the like. Also, to the extent that other applications have been specifically noted in the Applicants' Specification, those processes are also included such as the blood cell regulation detecting sleep data, etc. In other words, the Applicants intend for the phraseology issued to cover a wide variety of processes wherein a determination of the dynamic state could or would be valuable.

The Applicants respectfully submit that the linking of the method for detecting modes of the dynamic system to a physical, chemical or biological process clearly satisfies the utility requirement. Also, linking the dynamic system in the physical, chemical or biological process to the affirmatively decided "predicting" and "controlling" steps also further satisfies §101. Withdrawal of the rejection is respectfully requested.

In light of the foregoing, the Applicants respectfully submit that the entire Application is now in condition for allowance, which is respectfully requested.

Respectfully submitted,

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